DOCUMENT RESUME

ED 246 530 EA 016 981

AUTHOR Encarnation, Dennis J.; Richards, Craig E.
TITLE Social Policy and Minority Employment in Public, Catholic and Private Schools.
INSTITUTION Stanford Univ., Calif. Inst. for Research on Educational Finance and Governance.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
REPORT NO IFG-P-R-84-A7
PUB DATE Mar 84
GRANT NIE-G-83-0003
NOTE 69p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Bilingual Education Programs; *Block Grants; *Catholic Schools; *Compensatory Education; Educational Environment; Elementary Secondary Education; Federal Aid; *Minority Group Teachers; *Private Schools; *School Demography; State Aid; Teacher Employment

ABSTRACT

A variety of federal, state, and local programs provide public financial or in-kind support of private schools. This paper explores the impact of selected federal programs on minority employment patterns and focuses on the factors accounting for variation in racial staffing patterns among public, Catholic, and private schools. The study concludes that the combination of minority enrollments and a higher proportion of students participating in compensatory education programs explains most of the the variation in minority employment from school to school. The number of minority teachers is also a function of the demographic and fiscal dynamics of school environments. Growth is associated with greater employment of minorities. As the number of minority students participating in compensatory education and bilingual education programs increases, the number of minority teachers employed also increases. Recent federal and state movement toward block incentive grants will diminish the positive effect of government aid on minority employment. (MD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED246530

IFG

Institute for Research on Educational Finance and Governance

SCHOOL OF EDUCATION STANFORD UNIVERSITY

Project Report No. 84-A7

SOCIAL POLICY AND MINORITY EMPLOYMENT IN PUBLIC, CATHOLIC AND PRIVATE SCHOOLS

Dennis J. Encarnation
and
Craig E. Richards

March 1984

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

X This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

EA 016 381

Project Report No. 84-A7

SOCIAL POLICY AND MINORITY EMPLOYMENT IN PUBLIC, CATHOLIC AND PRIVATE SCHOOLS

Dennis J. Encarnation
and
Craig E. Richards

March 1984

Dennis J. Encarnation is Assistant Professor, Graduate School of Business, Harvard University.

Craig E. Richards is Assistant Professor, Graduate School of Education, Rutgers University.

The research for this report was supported by funds from the National Institute of Education (Grant No. NIE-G-83-0003). The analysis and conclusions do not necessarily reflect the views or policies of this organization.

INSTITUTE FOR RESEARCH ON EDUCATIONAL FINANCE AND GOVERNANCE

The Institute for Research on Educational Finance and Governance is a Research and Development Center of the National Institute of Education (NIE) and is authorized and funded under authority of Section 405 of the General Education Provisions Act as amended by Section 403 of the Education Amendments of 1976 (P.L. 94-482). The Institute is administered through the School of Education at Stanford University and is located in the Center for Educational Research at Stanford (CERAS).

The research activity of the institute is divided into the following program areas: Finance and Economics; Politics; Law; and Organizations. In addition, there are a number of other projects and programs in the finance and governance area that are sponsored by private foundations and government agencies which are outside of the special R&D Center relationship with NIE.

Abstract

The role of nonpublic schools in American education has emerged as an important policy issue over the last decade. Currently, a variety of federal, state and local programs already provide public financial support to private schools and their students. The paper explores the relative impact of selected government programs on a narrowly defined set of school operations. An open systems model is developed, in the context of which the effects of government programs on school operations can be identified. The focus throughout is on factors that account for variation in racial staffing patterns between public, Catholic and private schools.

In the twentieth century, the responsibility for educating children in America has been born overwhelmingly by public schools, supported by taxes and controlled by local school boards. This configuration of public support and local control has been restructured over the last two decades, with state and federal governments playing increasingly important roles in school finance and governance. But the relatively public-school character of elementary and secondary education has remained largely unchanged. For several years, the percentage of American students in nonpublic schools nationwide has been in the neighborhood of 10 percent, as it is currently.

However, the role of nonpublic schools in American education has emerged as an important public policy issue over the last decade. Proponents of an expanded role for the nation's private schools have asserted that increased competition in the educational marketplace will improve the quality of public instruction. Such competition will flow from greater freedom of choice exercised by the consumers of education - a freedom that, according to proponents, should be promoted in its own right. These tenets of choice and competition underlie several proposals to increase the role of private schools in American education.

A variety of federal, state, and local programs already provide public financial support (including "in kind" services) to private schools and their students. When aid from both direct and indirect government sources was added together, it made up an estimated one-quarter of nonpublic school resources from all public and private sources during the 1970-71 school year (Encarnation, 1983). Given expanded aid programs over the last decade, it is very unlikely that the relative importance of government financial support has diminished with time. To the contrary, federal block grant legislation improved the access of private schools and their students to public monies. Subsequently, federal legislation granting tuition tax credits to parents of nonpublic school students was narrowly defeated in Congress. At the state level, proposals for educational vouchers have been discussed, and in California advocates of an increased nonpublic-school role in education recently attempted to place such a proposal on the ballot for referendum.

In the face of this tide of support for nonpublic schools, several counterarguments have been advanced. Opponents of recent legislative proposals have pointed to constitutional provisions concerning the separation of church and state, to legislative and judicial mandates decrying the racial (and class) segregation of students, and to legal requirements associated with the oversight of public monies under private control. This oversight responsibility has prompted many proponents of private education to fear their loss of local autonomy, by which they mean control over client selectivity (e.g., student admissions) and control over provider resources (e.g., teacher qualifications). Their fears have been

intensified by growing government efforts to tie regulations to aid. The Internal Revenue Service (IRS), for example, recently proposed that a racial composition requirement more restrictive than that imposed on most public schools be a criterion for maintaining the tax-exempt status of private schools. The IRS proposal was one of a series of attempted policy interventions that would constrain the use of private schools by whites escaping desegregation programs in urban school districts.

Debate surrounding each of these simultaneous, often competing policy proposals is commonly expressed as a choice between whether Catholic and other private schools should or should not be supported by public funds or subjected to government regulation. Yet, as Kraushaar (1972) suggested, this perspective ignores important historical similarities in state and federal policy responses to both public and nonpublic education. As with public schools, debate surrounding federal and state involvement in Catholic and other private schools more aptly focuses on a different set of questions: (1) which school practices are being supported or controlled, (2) by which agencies or groups, (3) using what configuration of finances and regulations, and (4) with what actual impact on school operations? These questions are germane to an analysis of all educational policies irrespective of the public or private ownership of the educational provider.

In an effort to inform current debate, this paper responds to the preceding questions as it explores the relative impact of selected government programs on a narrowly defined set of school operations. To these ends, an open systems model is developed (Scott, 1981). Only in the

context of such a model may the effects of government programs on school operations be identified - effects that are independent of the confounding influences associated with other factors operating in the environment of schools. In Section I, eight sets of dependent variables, all of which represent important issues of educational policy, are outlined. State and federal policies in each of these domains represent an encroachment on local decision making in both public and private schools. From these eight a single set of resource decisions is selected for closer scrutiny. By concentrating on minority employment patterns we examine decisions affecting the largest single resource of schools; teacher salaries and fringe benefits account for upwards of 80 percent of school budgets. We also are able to explore a policy issue that provokes fear over lost autonomy from local public and private school managers. That fear is all the more poignant given the interdependence of teacher employment with all other policy domains and school operations.

In Section II, research is reviewed and hypotheses are generated for two sets of variables that define the institutional environment of schools - the first is local and sectoral; the second, state and federal. Ownership patterns and categorical programs, for example, have each been identified as important determinants of staffing patterns. Similarly, two additional sets of variables that define in part the consumer environment of schools - current client (student) characteristics and their changing compositions - are identified in Section III. Prior research suggests that these variables have both direct and indirect effects on employment patterns. Section IV summarizes hypotheses generated in the first three

sections and Section V describes the empirical model, data, and methodology used to test these hypotheses. The findings detailed in Section VI form the basis for our discussion of general conclusions and policy implications in Section VII. The focus throughout will be on factors that account for variation in racial staffing patterns between public, Catholic, and private schools. A study of variation within each sector awaits a second report.

I.

Educational Policy Issues

In 1851 the California Legislature passed its first general education law, a nine-page document that provided for:

(1) the creation of school districts and the election of school boards (an organizational structures policy),

(2) the certification of teachers (a personnel qualifications and employment policy),

(3) the establishment of a basic school curriculum (a program definition policy), and

(4) the raising of local revenues (a revenue generation policy).

The previous year the state had adopted a Constitution that further mandated that the state:

(5) compel children below a certain age to attend school (the beginnings of an admissions policy),

(6) select textbooks for elementary schools (thus providing an instructional materials policy), and

(7) distribute these materials without cost to local school districts (thus initiating a resource allocation policy).

Over the next one hundred and thirty years, only one additional policy mechanism - (8) testing and assessment of student progress - was added to this initial set of policy tools.

Thus, according to Encarnation and Mitchell (1984, 1983), since the inception of public education in California, education policymaking has involved decisions covering eight conceptually distinct, though empirically related policy issues. So central are these policies to the governance of California public schools that a recent report to the California State Board of Education (Educational Management and Evaluation Commission,

1982) defines them as "strategic control mechanisms" at the disposal of state policymakers in the legislative, executive, or judicial branches of government. The general applicability of this taxonomy to other states and to federal policymaking is evident in earlier research (Odden and Dougherty, 1982; McLaughlin, 1981; Berman, 1981; Mitchell, 1981; Kirst, 1980).

State and federal social policies have likewise encroached on the autonomy of private schools to shape these eight "strategic control mechanisms." (Encarnation, 1983; O'Malley, 1981; Vitullo-Martin, 1978; Bascomb Associates, 1975; Sullivan, 1974; Erickson and Madaus, 1972; President's Commission, 1971). For example, encroachment on private decisionmaking concerning a school's (1) organizational structure occurs when state or federal agencies define what a "school" is for the purposes of gathering general data, licensing schools, or dispensing funds. (2) Employment practices are shaped through teacher certification requirements (tied and untied to aid) and affirmative action mandates. (3) State compulsory education standards and federal and state curriculum requirements for selected school programs constrain a private school's program definition and (4) instructional material selection. Compulsory education standards also influence a private school's (5) admissions policy and practices. Distributing instructional materials without cost to nonpublic schools alters that school's (6) resource allocation decisions, while programmatic expenditures (e.g., Title I) and tax subsidies (e.g., income tax exemptions) (7) generate revenues for nonpublic schools.

Finally, private schools serving targeted student populations are required to conform with state and federal (8) testing and assessment standards.

With the possible exception of testing and assessment, the state and federal policies outlined above finance and/or regulate school inputs (i.e., resources) with less explicit attention to school outputs (i.e., performance). The reasons for this emphasis are many and varied. Most important among these are the problems associated with specifying and subsequently monitoring educational production (Garms et al., 1978; Hanushek, 1979). While there is certainly disagreement over the resources necessary to supply educational services, the debate becomes even more vitriolic when governments attempt to define, no less control, the configuration of service outputs. Given the innumerable hypotheses concerning the relationship between resource configurations and performance outcomes, governments try to define and monitor the former so as to affect indirectly the latter. In doing this, as we demonstrated above, governments encroach on the autonomy of both public and private school decision making.

While this study will focus attention on state and federal policies shaping school inputs, it is well beyond the bounds of this study to explore all such inputs. Rather, attention will focus on policies affecting the single most important resource. Recent national studies have confirmed the centrality of the teacher as a school resource (Goodlad, 1983; Boyer, 1983). For example, Coleman et al. (1982 p. 78) argued that staffing patterns best reflect "the varying capacities of schools to foster intellectual and emotional growth for students and to provide an

environment in which these can take place." In addition to this linkage to school outputs (i.e., performance), policies affecting personnel qualifications and employment also interact with several of the policy domains outlined above. For example, from the perspective of resource allocation, teacher salaries and fringe benefits account for the lion's share (upwards of 70%) of school budgets. Policies affecting employment are likewise critical to program definition, whether this be individual course offerings or special program configurations (e.g., bilingual education).

For these and other reasons detailed below, this paper focuses on the impact of state and federal finance and regulation of staffing patterns in public, Catholic and other private schools. Yet, not all teacher qualifications and other employment criteria have been subjected to state and federal purview. Moreover, foci of attention have shifted with time. A brief history of state and federal policies concerning teacher qualifications and employment criteria will illustrate this evolution.

Before the beginning of the twentieth century, state requirements for public schools had superseded earlier county regulations governing the certification of teachers (Cremin, 1964). In the name of efficiency, this change represented the first major restructuring of the labor market for school personnel, encouraging greater uniformity in certification and in professional employment standards statewide. However, this restructuring was confined almost exclusively to the public sector; nonpublic schools were largely immune from its effects in most states, including California (Encarnation, 1983; O'Malley, 1981; Bascomb Associates, 1975). Equally

important to public schools, the level of authority for determining personnel qualifications and employment criteria had begun to shift, even though local educational agencies retained control over the actual hiring and firing of teachers. Subsequent alterations in licensing and credential practices in the public sector bolstered state-level authority, while at the same time altering the balance between academic and pedagogical training for teachers.

Beginning in the mid-to-late 1960s, however, federal and state social policies introduced another criterion - race and ethnicity - into the process of selecting instructional personnel. The resulting state and federal "social" regulations, especially those associated with categorical programs and affirmative action mandates, caused an additional restructuring of the labor market for school personnel - a restructuring that for the first time in California brought the federal and state governments into direct contact with both public and nonpublic schools as these local agencies hired and fired educational personnel.

It is this second restructuring of the educational labor market that is the subject of the present paper. In other words, attention will focus on variation in racial and ethnic staffing patterns attributable to federal and state program operations in public and nonpublic schools. Such personnel decisions and occupational choices represent one of the most important, and most sensitive components of a school's internal operations. Despite that importance, recent national reports (Goodlad, 1983; Boyer, 1983) have paid scant attention to the efficiency, equity,and legitimacy considerations raised in the 1960s and 1970s that prompted increased minority employment.

II

The Institutional Environment of Schools

Of course, federal and state social policies are not the only institutional factors shaping employment patterns. Personnel qualifications and employment criteria are also a function of local educational and noneducational labor markets operating simultaneously. Together, these organizational linkages and market forces define the institutional environment of public, Catholic, and private schools.

Local Institutional Factors: Sector as a Determinant of Employment. Analyses of the employment effects of federal and state social policies of the 1960s and 1970s have concluded that these policies served to expand the ranks of ethnic and racial minorities in professional and semi-professional occupations. Early research concluded that this growing minority middle class owed its new-found economic status to federal (and state) equal employment legislation and subsequent judicial interventions in pursuit of affirmative action (For a summary, see Wallace, 1977). No distinction was drawn in these studies between the public and private sector.

Later studies revealed, however, that most minority employment gains, particularly for professional occupations, were attributable not to growth in the private sector, but to the direct creation of publicly-funded jobs in government agencies. For example, analysis of national census data covering the last 20-30 years concluded that, in relative terms, minority professional employment in the public sector exceeded similar employment in the private sector. (Freeman, 1973; Carnoy et al., 1976). Moreover, minority employment gains were greater in those government agencies that

implemented federal and state social welfare programs, especially those designed to serve low-income clientele (Brown and Erie, 1981; Newman, 1976; Carnoy et al., 1976). At the state and local level, where most of this new public employment took place, public education accounted for over two-thirds of the social welfare employment increase (Brown and Erie, 1981).

Most of this comparative research on public and private sector staffing patterns focused on Black employment gains.[1] The general conclusion was that Blacks took a larger share of new hirings than did Anglos during the period of accelerated state and federal involvement in social policy. So important were these gains that by 1976 more than five out of every ten Black professionals working in the entire national economy were employed by government agencies. The ratio for Anglos was less than three out of every ten (Brown and Erie, 1981). Trends in California are consistent with national trends reported in earlier studies. Within both local public educational agencies and the state civil service, Blacks comprised a larger share - almost two to one - of professional positions than did Blacks employed in California's private sector (Richards, 1983; Richards and Encarnation, 1982). Although the evidence is less compelling for Hispanics, earlier employment data at least partially supported this conclusion in California: Hispanic professional employment in the State civil service (and, to a lesser extent, local public schools) was relatively larger than the employment of Hispanic professionals in the private sector (Richards, 1983; Richards and Encarnation, 1982).

Existing research has explored variation in racial employment patterns between the public and private sectors. None of this research expressly compares racial staffing patterns between public and private schools. Existing research suggests that the sector within which a school operates should be an important determinant of minority employment; that is, controlling for school size, public schools employ more minorities than do private schools (Hypothesis 1).

State and Federal Programs as Determinants of Employment. As noted above, minority employment gains were greater in those state and local agencies that implemented federal and state social programs. Between 1964 and 1975, the federal government created over 30 major educational and related manpower training programs (Levin, 1977). Nonpublic schools or their students were eligible for funding or "in kind" services under most federal schemes (Encarnation, 1983; Manno, 1978). And, as Coleman (1982) reported, nonpublic schools participated in many of these programs, though at different rates (see Table 1). Each federal program, in turn, was matched by an even broader array of state categorical aid programs whose funding in states like California often surpassed federal levels. By 1979, no fewer than 45 state and federal categorical aid programs could be identified in California (Kirst, 1982). Nationally, almost half of all government financial aid for nonpublic education could be attributed to direct state and federal expenditures channeled through categorical programs (Encarnation, 1983).

These state and federal categorical aid programs were generally of two types: incentive grants and targeted grants. Incentive grants were allocated for broadly defined purposes to educational providers, whether public or nonpublic. Such programs were usually designed to strengthen the content and process of instruction for all students in the school, and usually allowed wide discretion in the use of funds to local administrators who applied for these grants. Programs of this type included grants intended for the purchase of library materials and for the improvement of science or vocational education. Variation in participation rates between sectors can be seen in Table 1. Library material programs are as much a Catholic school program as a public school program. In addition to the absence of federal control, much of this wide participation is due to the ease of application (NCEA, 1978). In contrast, nonpublic school participation in vocational education programs is constrained by difficulties encountered in the application for funds; moreover, as Table 1 shows, few vocational education students are served by nonpublic schools.

The wide discretion granted local administrators in allocating program resources distinguished library and vocational programs from a second class of categorical aids. Whether these other categorical programs required local application (e.g., federal bilingual education) or were funded as an entitlement (e.g., California state bilingual education), they severely restricted local discretion in the internal allocation of program resources to a school's operations. Unlike textbook programs or vocational

Table 1

Public and Catholic Schools Compared:

Selected Indicators

	Federal Categorical Aid Programs	Between Sector Comparisons[a] Public	Catholic
Within Sector Comparisons	Incentive Grants for Broad Purposes		
	. Library materials	86%	99%
	. Vocational education (basic program)	67	5
	Targeted Aid for Selected Students		
	. Compensatory education	69	24
	. Bilingual education	12	0

	Percent Black or Hispanic Enrolled	Between Sector Comparisons: Percentage Total Black Students Public Schools	Catholic Schools	Percentage Total Hispanic Students Public Schools	Catholic Schools
Within Sector Comparisons	0-19%	19.4%	54.6%	59.7%	58.8%
	20-49%	35.4	30.0	18.4	21.0
	50-79%	21.8	8.5	16.7	14.4
	80-100%	23.4	12.9	5.3	5.8

[a]Values given are percentages of schools participating.

Source: Coleman et al. (1982: Tables 3.1.3 and 4.5.1).

education and bilingual education - supported educational programs that responded to the unique learning needs of targeted students, usually from low-income or minority backgrounds. According to Table 1, participation rates in these programs varied considerably by sector. The proclivity of public school students to participate in compensatory education or bilingual education programs is not matched by students in nonpublic schools. Of these programs, only compensatory education affects a sizeable number of Catholic school students.

Targeted categorical grants merit closer scrutiny. As we noted above, social welfare programs designed to serve low-income clientele were a major source of minority employment gains. To illustrate, the Emergency School Aid Act required as a condition for funding that school faculties had to be racially balanced; so did many school desegregation and affirmative action decisions. Other programs like compensatory education and Head Start have been linked to Black employment gains as a result of their specific focus on the needs of low income, inner city students (Brown and Erie, 1981). Still other programs introduced special certification and training mechanisms, and have stipulated that new teachers with these credentials must be hired if the school district is to satisfy program mandates. In the case of one such program, bilingual education, ethnic identity and professional specialization appear to overlap. Since bilingual proficiency is a condition of employment, Richards (1984) demonstrated that Hispanics and other language minorities have an edge in this expanding sector of the teacher labor market. Hispanics comprised almost 40 percent of all bilingual education teachers in California during 1980, yet they were less than 6 percent of the entire teaching force (Richards, 1983; Richards and Encarnation, 1982).

In short, categorical aid programs designed to serve targeted students restructured the labor market for school personnel by creating a selective demand for personnel needed to address the special educational needs of low income and minority students.[2] To the extent that this restructuring created new opportunities for Blacks and Hispanics, minority employment patterns in the educational labor market should be a function of this class of state and federal categorical programs. That is, as the number of students participating in targeted aid programs increases, the number of minority teachers employed in that school should also increase (Hypothesis 2). By this same logic, the relationship between incentive grants earmarked for broad purposes and minority staffing patterns would be negligible (Hypothesis 3). These propositions should hold irrespective of the educational sector within which the school operates.

This direct relationship between sector and minority employment may be mitigated, however, by the relationship between targeted aid and minority employment. As Table 1 suggests, a school's or its students' programmatic involvement may itself be a function of that school's sectoral affiliation, and, ultimately, student characteristics.

III

The Consumer Environment of Schools

Institutional sources of employer demand - be they local and sectoral, or state and federal - do not alone explain variation in staffing patterns across public, Catholic, and other private schools. Other sources of variation can be explained by the different demands schools confront from their own consumers and clients - the students and the parents of students who attend schools. While these demands may be institutionalized - witness the emergence of parent-teacher associations and school site councils - more often than not they are reflected in the characteristics of the students who attend schools. Existing research identifies two broad sets of client or student characteristics that have an effect on provider or school operations generally, and staffing patterns specifically. While the linkages between client and provider may be direct, they may equally interact with the institutional factors identified above.

The Composition of Current Clients. Federal and state categorical aid programs alter the relationship between client and provider. The racial, ethnic, and socioeconomic composition of students - along with their age distribution, total size, and community location - determine the eligibility of the school or its students for categorical funding or "in kind" services. They also determine the extent of state and federal regulatory oversight. Compensatory education and bilingual education programs are illustrative. The absence of large concentrations of minority, poor, or other "educationally disadvantaged" students of elementary school age precludes eligibility for many of these programs, and

exempts public and nonpublic schools from the regulation and oversight tied to their funding. Since such "educationally disadvantaged" students are located in urban areas, the community location of students may prompt funding, as in California's Urban Impact Aid.

Of course, client-provider relations need not be mediated by institutional factors. For example, a growing body of research on the demand for, and supply of teachers draws direct linkages between staffing patterns across schools and the racial segregation of students in those schools. On the demand side, three sets of interrelated factors have been identified. First, research suggests that minority teachers are important learning and role models for minority students (Dworkin, 1980; Naboa, 1980; Haney, 1978). Second, for reasons of social control within schools, the Safe School Study recommended that more minority teachers be assigned to predominantly minority schools to reduce violence against teachers (National Institute of Education, 1978). Third, minority employment gains may be a response to political demands emitted from both the larger polity and the local school site. The increased hiring of minority faculty in public schools figured prominently in the demands of civil rights leaders and community groups who had been protesting and litigating for decades (Peterson, 1982; Kirp, 1982). Likewise, the absence of minority faculty figured among the demands of student militants in public schools (Richards, 1983). However, there is little indication that either set of demands - from the larger polity or the local school site - affected the employment practices of Catholic and other private schools.

There is limited evidence to suggest that client demands may vary between public and nonpublic schools. Variation in client characteristics across sectors would suggest this. As we see in Table 1, Coleman et al. (1982) have discerned important racial and ethnic differences between public and nonpublic schools. For example, the average Catholic school, when compared to its public counterpart, enrolls a relatively larger number of wealthy, usually Anglo (except in the west) students who attend more Anglo-segregated schools, often in suburban communities.

Research on post-secondary education supports this conclusion that client characteristics vary considerably according to the sector with which the service provider operates. The Carnegie Council (1980) has rank-ordered such providers, beginning with private, prestigious universities at the top and state-supported community colleges at the bottom. Not only does minority enrollment in general increase as one moves down this scale, but minority employment likewise increases - though the pattern is not necessarily monotonic. This research provides one of the few indications that minority enrollment and minority employment are at least correlated, if not causally related, in private educational institutions.

Such variation across sectors among the clients of educational providers - be they K-12 or post-secondary - may ultimately shape the incentive structures of educational managers. A growing body of research concerning theories of agency and government enterprise predicts that public and private managers producing the same general set of services will exhibit differences in their behavior - differences that arise from

systematic variation in the incentive structures operating in the two sectors (For a summary, see Mueller, 1979). Much of this research has focused on the noneducational service sector. In one such study, Lindsay (1976) found that a relatively smaller proportion of minority physicians were employed by private hospitals, as compared to Veterans Administration hospitals. As explanation, Lindsay (p. 1071) pointed to client demands on private hospitals: since managers perceive that "patients prefer to be treated by white physicians,...the attribute 'white race'...command(s) a positive premium in the market for physicians."

For local public managers, any such perception is confounded by the incentives flowing from the structure of client demands; these demands may flow from higher-level government oversight and from the different clients of government agencies. To illustrate this latter point, Borjas (1978) shows that federal social service agencies employ greater proportions of minority professionals than do agencies providing other general service (e.g., agriculture agencies). As explanation, Borjas pointed to the impact of consumer demands on government agencies: these agencies must rely on different constituencies for political and other resources and, in turn, respond to constituency demands through the policies they advocate and the personnel they employ. For private providers, the relation between client and provider is equally direct.

That nonpublic managers, at least in the educational sector, may find it easy to satisfy their demand for Anglo teachers is indicated by research concerning the supply side of the labor market. Looking at occupational preferences, recent empirical analyses of "hedonic" price theory have

reconfirmed what has long been known about the sociology of work: job characteristics and working conditions figure prominently in an individual's choice among alternative employment opportunities. To attract an employee to a job less preferred by a potential applicant, these labor market studies show that an employer must pay a higher wage, holding other determinants of employment constant. For example, in several studies of teacher employment in California and Florida public schools, Chambers (1978) found that school districts must pay higher wages to Anglo teachers in order to attract them to schools with one or more of the following characteristics: minority-segregated student body, high levels of violence, location in the inner city. Employment in such schools is not preferred by Anglo teachers, leaving open an avenue for minority employment. Correlatively, Anglo teachers will accept lower wages to work in public schools (and, by inference, private schools too) that have low levels of violence, are located in pleasant suburban surroundings, have large proportions of Anglo students, operate a well-maintained physical plant, and so on. In these schools, managers who prefer to employ Anglo teachers have ample supply to do so. Since the existing supply of minority teachers is relatively small in the total educational labor force, the high demand for minority teachers in urban (largely public) schools may absorb available supply. Private and public managers outside of these urban schools may thus have little choice but to hire Anglo teachers, independent of any preference for the race of the teacher they employ.

In summary, several testable propositions may be garnered from this wide-ranging review of the consumer environment of schools. Minority

employment in schools should increase as a direct result of one or more of the following conditions: (a) increased minority enrollment, (b) increased enrollment of poor students, (c) location in an inner-city community, and (d) attendance in elementary schools (Hypotheses 4-7).

The Changing Composition of Clients. In addition to the existing configuration of client characteristics discussed above, dynamic elements may alter staffing patterns in public, Catholic and private schools. For example, most federal and state categorical aid programs originated during a period of relative growth in the total population served by public schools, and in the fiscal capacity of local school districts. Since the size of the educational labor force is a positive function of the size of student populations and of budgetary expenditures, such growth was reflected in expanded hirings of all teachers - Anglo, Black, and Hispanic. In short, growth has had a positive effect on minority employment (Hypothesis 8).

Over the last two decades, however, there have been dramatic changes in the student populations served by public and nonpublic schools, as well as changes in the fiscal capacity of local public school districts. As the total number of children attending public schools declined sharply over the last decade, total enrollments in private schools increased. Yet despite overall decline in public enrollments, the numbers of students classified as disadvantaged for reasons of race, language, income, or physical disabilities has risen in public schools in absolute and relative terms (Encarnation and Richards, 1981). To a lesser extent, cursory evidence suggests that the same may be said for Catholic and other private schools.

In California, public school enrollments declined by over 350,000 students between 1967 and 1979, while students identified as social and ethnic minorities increased their numbers absolutely and relatively. This precipitous decline in total enrollments was due to a 26 percent decline over the 12-year period in Anglo students, who by 1979 constituted no more than 60 percent of all public school students. The remainder were minorities, of which Hispanics constituted the largest single group in public schools. Having grown by over 50 percent during the last decade, Hispanics by 1979 comprised over one-quarter of all public school students in California. By comparison, the Black growth rate over the same period mirrored the proportion of Black students in California's public schools during 1979 - 10 percent (California State Department of Education, 1979).

These changes in enrollment conditioned minority employment. The severe fiscal crisis that hit California's public schools during the late 1970s was precipitated not only by declining enrollments, but also by Proposition 13 and the simultaneous reduction in state revenues. Thus, many districts were unable financially to cushion teacher layoffs from declining student enrollments by reducing class size. Since the level of state funding was linked by formula to student enrollments, little short-term relief from the state was available to declining districts. Because teacher salaries and fringe benefits accounted for over 80 percent of district budgets, the standard solution to budgetary deficits was a reduction in the teaching staff. In short, teachers were laid off. The seniority and tenure provisions secured over the last two decades by teacher unions determined reduction in force decisions. The first teachers

dismissed were, by state law, those with the least seniority. Since the employment gains of Black and (especially) Hispanic teachers are of recent origin, these two minority groups are most vulnerable to dismissal (Richards and Encarnation, 1983). In this way, demographic declines and fiscal constraints interacted to erode previous minority employment gains. In other words, one would expect to find fewer minorities employed in schools experiencing sharp employment declines (Hypothesis 9).

IV

Summary of Hypotheses

Nine testable propositions were identified above. Accordingly, the numbers of minority teachers employed in a given school are predicted to increase if:

H_1: the school is located in the public sector;

H_2: the number of students participating in targeted aid programs increases;

H_4: the number of minority students increases;

H_5: the number of poor students increases;

H_6: the school is located in an urban area;

H_7: the school serves elementary school-age students;

H_8: the number of teachers employed by the schools increased over the last few years.

The numbers of minority teachers employed are predicted to be unaffected if:

H_3: the number of students participating in state and federal incentive grant programs increases.

The numbers of minority teachers employed are predicted to decline if:

H_1: the school is located in the nonpublic sector;

H_9: the number of teachers employed in a school declined over the last few years.

VI

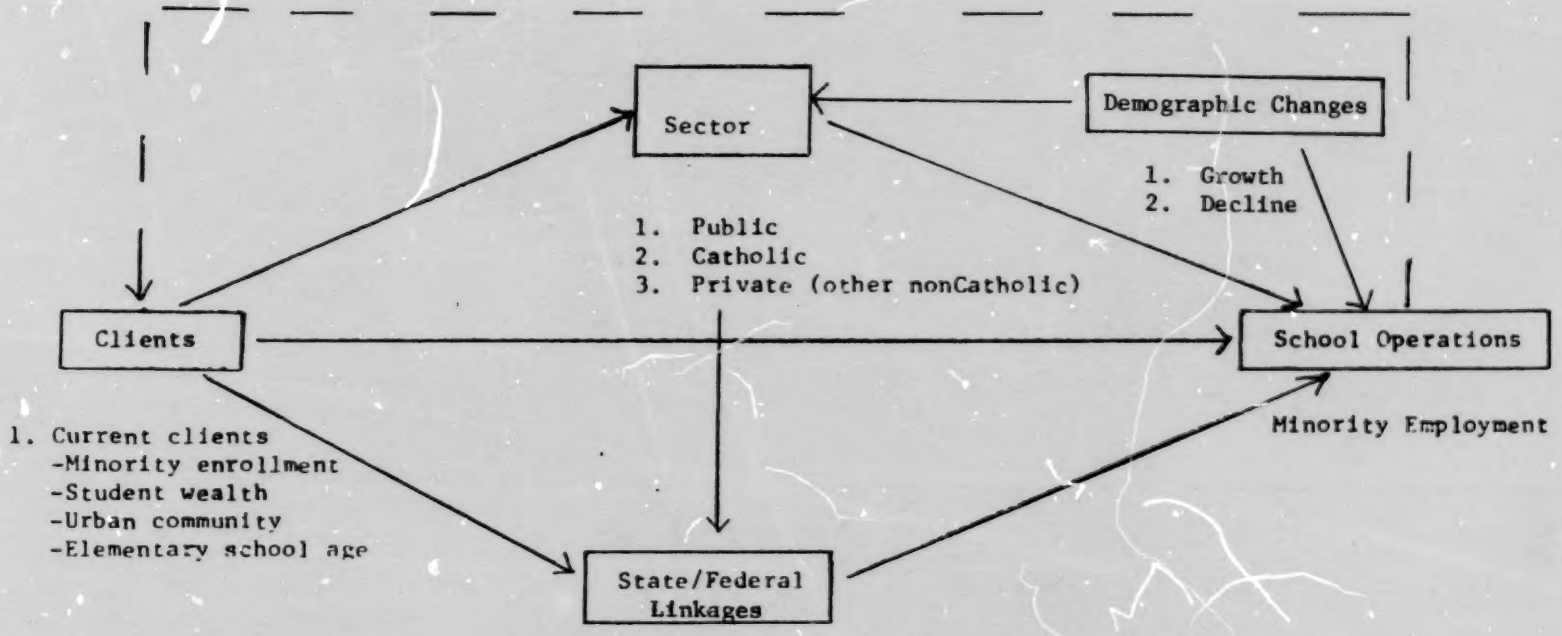
Empirical Model, Data, and Methodology

In summary, our review of existing research has identified several environmental determinants of minority employment in public, Catholic and other private schools. In the institutional environment of schools, these determinants include local and sectoral as well as state and federal variables. Additional sources of variation in minority employment may be found in the consumer environment of schools, environments shaped by the current and changing composition of the students served by schools. Our review of existing studies has also identified several plausible linkages among these environmental factors, and between such factors and minority employment. Taken together, these linkages define an open systems model of service delivery. Figure 1 portrays this model, and draws from our review of existing research those variables for which empirical measures will be sought.

Data. Data required for the analysis of this model were collected during Spring 1982 by Stanford University's Institute for Research on Educational Finance and Governance (IFG) under a research grant from the National Institute of Education. Through school- and district-level questionnaires, local K-12 educational agencies in the public, Catholic, and other private sectors were asked to report on their operations during the 1980-81 and 1981-82 school years. These survey data were supplemented by data from other sources: (1) for public schools only, the 1982 California Basic Educational Data System (CBEDS) supplied by the California State Department of Education (CDOE); (2) for all nonpublic schools, the 1982 California Private School Directory also supplied by CDOE; and (3) for

Figure 1

An Open Systems Model of Minority Employment



Catholic schools only, detailed financial reports generously supplied by Catholic dioceses in the areas surveyed.

The samples of schools and school districts come from the six counties that comprise the San Francisco Bay area: Alameda, Contra Costa, Marin, San Francisco, San Mateo, and Santa Clara.[3] Schools sampled in these six counties exhibited wide variation on variables of interest to this study, while at the same time operating in close proximity to one another. This site encompasses three central cities (Oakland, San Francisco, and San Jose) and numerous suburban towns with wide diversity and different rates of change in the racial, ethnic, and socioeconomic composition of their inhabitants. Moreover, the type and frequency of K-12 educational institutions vary widely across the six counties. Such wide diversity among the clients (students) and providers (schools) of educational services is a precondition for wide diversity in state and federal regulation and finance of education. Yet, because of geographic proximity, educational and labor markets overlap considerably, thereby reducing a number of confounding factors that would otherwise distort a nationwide sample of schools.

From these data we were able to operationalize the variables identified in Figure 1 using the school-level measures and indicators identified in Table 3.

Methodology. In order to isolate the contributions of separate environmental factors to minority employment, ordinary least-squares estimation procedures were employed using step-wise inclusion criteria.

Given the fact that the response rates from the stratified sampling design varied by both school sector and location, the regression model was weighted to reflect the population of schools by sector and by urban/suburban location.

V

Findings

General Overview.

Tables 2 and 3 summarize the weighted linear regression model utilizing a stepwise inclusion criterion designed to maximize the R^2. The R^2 for the general model was .68. Appendix A contains a correlation matrix for the variables included in the model and Appendix B contains the actual estimates and significance tests.

None of the hypothesized relations was reversed. Correlatively, all statistically significant coefficients were in the hypothesized direction. Most of the variance in the estimates of the number of minority teachers employed in schools is explained by a small subset of variables: the proportion of minority students enrolled, the proportion of low-SES students enrolled, the proportion of students receiving compensatory aid enrolled, the size of the school, and growth in faculty size were positively related to minority employment. Catholic and private schools were significantly and negatively associated with minority employment.

The Consumer Environment

1. The number of minority teachers employed in a school in our sample can best be explained by the proportion of minority students in the school and the total school size. The model predicts that we would find

Table 2

An Operationalization of the Model

Variable	School-level Measures and Indicators
Minority Employment	the number of minority teachers employed
Public	a dummy variable for school sector, where 1=public and 0=nonpublic
Catholic	a dummy variable for school sector, where 1=Catholic and 0=non-Catholic
Library Materials	a dummy variable for school participation in former ESEA Title IV-B, where "1" indicates that the school receives federal funds and "0" indicates nonparticipation.
Compensatory education	the proportion of students enrolled in federally funded compensatory education programs (former ESEA Title I).
Bilingual Education	the proportion of students enrolled in state or federally funded bilingual education programs (former ESEA Title VII).
Minority enrollment	the proportion of minority students in the school
Student wealth	the proportion of low SES students enrolled in the school
Urban Community	a dummy variable for inner-city location, where "1" indicates that the students enrolled live largely within the city limits of Oakland, San Francisco and San Jose, and "0" indicates all other locations.
Elementary School age	a dummy variable for students enrolled in grades K-8 schools, where 1 = elementary and 0 = secondary
Employment Growth	the number of teachers with five or less years of seniority
Employment Decline	the number of teachers laid off during the two-year period 1979-1981
School size (K-12)	the total enrollment of K-12 students
School size (Pre-school)	the total Preschool enrollment

Table 3

Hypothesized Relations and Empirical Findings:

Determinants of Minority Employment[a]

Independent Variable	Hypothesized Relationship[b]	Linear Model B Value[c]	Linear Model ΔR^2 (R^2=0.68)
Institutional factors			
Local/Sectoral			
Public	+	insign.[d]	0.001(12)[e]
Catholic	-	-1.275	0.008(5)
State/Federal			
Incentive Grants			
Library materials	0	- .524	0.005(8)
Targeted Aid			
Compensatory education	+	2.299	0.026(3)
Bilingual education	+	insign.	0.001(11)
Teacher Growth and Decline			
Growth	+/-	.042	0.01(4)
Decline	+/-	insign.	0.004(9)
Client Characteristics			
Minority race	+	4.164	0.296(2)
Low SES	+	2.214	0.006(6)
Urban community	+	insign.	0.005(7)[f]
Elementary school age	+	insign.	0.001(10)
Size (K-12)	0	.004	0.313(1)
Size (Pre-school)	0	insign.	0.000(13)

Notes:

[a] See Appendix A for correlation matrices and Appendix B for the complete estimation of the linear regression model.

[b] Key: (+) or (-) mean positive or negative relationship, respectively. (0) means negligible relationship.

[c] Significant at 0.05.

[d] Insign. = Insignificant.

[e] Represents the order of stepwise inclusion.

[f] The dummy variable Urban had a significance level of .0599.

approximately one more minority teacher if the proportion of minority students increased by .24 (e.g., from 10 to 34 percent).

2. Less important, but still significant, is whether or not the school has been increasing the size of its teacher labor force. Increases are reflected by the number of teachers in the school with less than five years of seniority and decreases are reflected by the number of layoffs in the two-year period 1979-1981. Increases are positively associated with minority employment and decreases were statistically insignificant. For every twenty additional teachers with less than 5 years seniority the model predicts less than one will be a minority.

The Institutional Environment

While client characteristics dominate the model, two sets of institutional factors are also important determinants of minority employment:

1. Sector. The Catholic sector emerges as a significantly negative factor in the employment of minority teachers. Our original suspicion that the influence of sector on employment might be eliminated once correlated client characteristics and linkages with state and federal programs were introduced was unfounded. A school's inclusion in the Catholic Sector was the fourth most important in terms of its contribution to the model's fit. The model predicts that the fact that a school is Catholic would reduce the number of minority teachers employed by one, everything else held equal.

2. Government Programs. After controlling for the myriad of other environmental influences on employment, incentive grants that permit wide local discretion (Our example is library materials aid) in their use for

broad purposes have, as predicted, a negligible impact on minority employment. Consistent with Coleman's findings (see Table 1), we found that library materials aid was as much a Catholic school program as a public school program. In sharp contrast to the library materials program, more tightly regulated grants targeted for selected students had a positive effect on minority employment, even after controlling for other significant determinants of minority employment.

In the case of compensatory education aid, the proportion of students receiving aid was strongly associated with the increased employment of minority teachers: a 43 percent increase in the proportion of students receiving aid is predicted to increase the number of minority faculty by one. In the case of bilingual education aid, the b value was large but statistically insignificant. This may be a function of lower funding levels and the virtual non-participation of Catholic, private and suburban schools irrespective of minority enrollments. For public schools in the State of California as a whole, Hispanic employment has been shown to be significantly related to the percentage of Hispanic students enrolled (Richards, 1984).

VI

Conclusions

To summarize the fundings discussed above, "publicness" independent of the clients served and the federal and state categorical aid received is not a strong predictor of increased employment of minority teachers. Rather it is the combination of minority enrollments and a high proportion of students participating in compensatory education programs from low SES backgrounds and enrolled in large central city schools that explains most of the variation in minority employment from school to school. Yet Catholic schools, and private schools even more so, are negatively associated with minority employment, even after controlling for the race, SES, and categorical program participation rates of their students. At least for public schools, as we outlined in section III of this study, the reasons for small subsets of variables having the strongest effects on the employment of minority teachers are many and varied: there is obviously a high correlation between minority status, low SES family background and participation in compensatory education programs. Furthermore, minority teachers are recognized as important role models for minority students; they may serve as instruments of social control with the school; they partially satisfy political demands that school staffing reflect the racial composition of the students and community; they work in minority-segregated schools deemed less desirable by their Anglo counterparts. The institutional factors that define the concept of sector have an effect on minoirty employment separate from the effects associated with other determinants (e.g., minority enrollment; federal aid) that are correlated

with both sector and employment. The conclusion that these factors are important predictors of minority employment is consistent with the research summarized in Section II above concerning the impact of federal and state social policies on minority employment in the public sector generally, and state and local social welfare agencies (including public schools) specifically. De jure, nonpublic schools are also subject to that legislation; de facto, there is little evidence to suggest this is the case. In addition, the relation between sector and minority employment is also consistent with research reported in Section III on the incentive structure of service industries generally: the argument here is that managers of nonpublic service providers value Anglo over minority professionals because managers perceive that this ordering characterizes the preference functions of their clients and consumers.

These nonpublic managers may find it easy to match their demand for Anglo teachers with available supply. As we saw in Section III, research concerning the occupational preferences of teachers suggests that Anglo teachers will accept lower wages in order to work in public schools (and presumably private schools, too) that have low levels of violence, are located in pleasant suburban surroundings, have a well-maintained physical plant, and so on. In sum, widely different bodies of literature concerning the demand for, and supply of teachers support the findings reported in this paper: the number of minority teachers rises in public schools, declines in private schools.

The number of minority teachers employed in schools is also a function of the demographic and fiscal dynamics of school environments: growth and decline in the labor market for school personnel is driven by demographic

(and fiscal) changes. As we tried to demonstrate in Section III, growth is associated with greater employment of minorities, largely because growth is often driven by increased minority enrollments. Indeed, we found that increased numbers of minority teachers were associated with a growing labor force.

Federal and state programs targeted to selected students must be distinguished from other programs designed to provide incentives for broad purposes defined locally. It is the former set of programs that is associated with minority employment; that is, as the number of students participating in compensatory education or bilingual education programs increases, the number of minority teachers increases. Social welfare programs designed specifically to serve low-income clientele have been a major source of minority employment gains; most such programs are tightly monitored by state and federal agencies or the courts; a few may link funding to desegregation of the labor force; even fewer may implicitly link professional specialization with ethnic identity. By contrast, broadly defined incentive grants do not have these characteristics, and enjoy high rates of participation among public and nonpublic schools alike. These programs have a negligible effect on minority employment.

Policy implications. These conclusions have important implications for current policy debates. At least two possible scenarios for the future direction of educational policy can be envisaged. One scenario does not bode well for increased employment of minority teachers; the other is equally plausible, but suggests more optimistic employment outcomes for

minority teachers. We shall outline the more pessimistic scenario first, drawing expressly on the conclusions outlined above.

The recent federal and state movement away from tied aid and toward incentive (block) grants and tax incentives will diminish the direct and positive effects of government aid on minority employment. As local control increases, minority employment may diminish unless minority enrollments increase enough to offset the loss of federal and state involvement. The negative repercussions of the movement away from categorical aid will likely be even more pronounced given the general decline in school age population that affects most public schools and some Catholic schools. Some of the decline in public school enrollments may be attributed to the flight of students to nonpublic schools. While this flight should generate growth in the labor market of nonpublic schools, such growth - otherwise associated with minority employment gains - may be insufficient to overcome the strong, negative effects of the private sector. It is these same nonpublic schools that respond to a variety of managerial incentives that inhibit minority employment. To the extent that existing or proposed government policies (e.g., tuition tax credits) accelerate that flight, minority employment gains in the public sector may be reversed. While student flight has not been confined to Anglo students, it does not include minorities in sufficient numbers to give these new clients of nonpublic schools an appreciable impact on minority employment. In short, recent policy trends, when combined with other environmental factors, do not bode well for increased minority employment. Current policy trends have begun to diminish the positive role of government as an instigator of labor market restructuring. Proposed policies like tuition tax credits could possibly exacerbate these tendencies.

However, proposed policy changes can also be viewed in a different light, one that accentuates the role that federal and state governments have played in shaping the internal operations of public, Catholic and other private schools. Since public aid and government regulation are so inextricably intertwined, no discussion of alternative financial aid policies - including tuition tax credits - should overlook the probable impact of expanded government regulation on the internal operations of nonpublic schools in the future. Among those operations, employment figures prominently. By 1975, for nonpublic schools to operate, 5 states mandated that they all satisfy state accreditation requirements, 13 states mandated that their teachers satisfy state certification requirements, and 46 states mandated that minimum curriculum requirements be satisfied. The frequencies of these and other regulatory policies have grown nationwide over the past two decades.

While numerous additional regulations are either unrelated to aid or are directed at the noninstructional program of private schools, a second trend over time has been toward more "tied aid" and greater regulation of employment and the seven other policy domains identified in Section I. All programs of aid inevitably must determine standards of eligibility, the first step toward defining what a school is or should be. As suggested by past IRS attempts to regulate nonpublic school admissions policies, subsidization through tax policies becomes an important vehicle for extending the scope of government control over the internal operation of nonpublic schools. Again, minority teacher employment could be among the operations affected.

Currently, a third restructuring of the educational labor force is underway. The principal stimuli for the restructuring are recent national studies critical of the quality of American education. (Goodlad, 1983; Boyer, 1983) These studies confirmed the centrality of the teacher as a school resource. Among their proposals are dramatic increases in teacher salaries and fundamental upgradings of teacher competencies. Thus far, policy recommendations have paid scant attention to the equity and legitimacy issues that underlay the last attempt to restructure the educational labor market in the 1960s and 1970s. It remains to be seen whether this increased emphasis on educational quality and teacher salaries will have a positive effect on the employment of minority teachers. Yet, a failure to address the original concerns incorporated in social policies of the last two decades may rekindle demands for equity and legitimacy by the fastest growing clients of American education - urban minority students.

Implications for future research. Much of the previous discussion of policy implications argued as if public, Catholic or private schools could be treated as undifferentiated wholes. However, there is ample evidence to suggest wide variation from school to school within each sector with respect to both school operations generally, and minority employment specifically (Richards, 1983; Richards and Encarnation, 1982). Within each sector, environmental determinants of minority employment vary considerably: schools differ in their participation rates in government programs (Table 1), in their proportionate enrollments of minorities (Table 2), and in their rates of growth and decline. In a separate report focusing on within-sector variation in minority employment, the general applicability of the open systems model developed above will be assessed (Richards and Encarnation, 1984, forthcoming).

Footnotes

[1]The classification of teachers and students racially as either Anglo, Black, or Hispanic is at best imprecise. Blacks, for example, may be of Ibero-American (Hispanic) origin. Moreover, the consistent use of the term "race" as a substitute for the cumbersome phrase "race and ethnicity" is not meant to obfuscate the point that many Hispanics share a common caucasian racial history with Anglos.

[2]Note that the sharply increased demand for teachers engendered by targeted categorical programs often created an undersupply of qualified teachers.

[3]For a discussion of the sampling procedures, response patterns, and the biases introduced by these, see Chambers, Descriptive Report, 1984.

[4]Special thanks to Edward Haertel for his advice concerning the use of weighted responses in regression analyses.

References

Abramowitz, S., and Stackhouse, E. A. 1980. Private High School Today. Washington, D.C.: National Institute of Education.

Bascomb Associates. 1975. State and Federal Laws Relating to Nonpublic Schools. Washington, D.C.: U.S. Office of Education

Berman, P., et al. 1981. Improving school improvement. A policy evaluation of the California school improvement program. Berkeley, CA: Manifest International.

Borjas, G. 1982. "The Politics of Employment Discrimination in the Federal Bureaucracy." Journal of Law and Economics (October):

Boyer, E. L. 1983. High School: A Report on Secondary Education in America. Carnegie Foundation for the Advancement of Teaching, Washington, D.C.

Brown, M. and Erie, S. P. 1984, forthcoming.

Brown, M. and Erie, S. P. 1981. "Blacks and the Legacy of the Great Society: The Economic and Political Impact of Social Policy." Public Policy (Summer): pp. 300-330.

California State Department of Education. School Statistics. Sacramento, selected years.

Carnoy, M., Girling, R., and Rumberger, R. 1976. Education and Public Sector Employment. Palo Alto, CA: Center for Economic Studies.

Chambers, J. 1984, forthcoming. "Descriptive Report." Stanford, CA: Institute for Research on Educational Finance and Governance, Stanford University.

Chambers, J. 1979. "Educational Cost Differentials and the Allocation of State Aid for Elementary/Secondary Education." Journal of Human Resources 13:4 (Fall).

Coleman, J.S., Hoffer, T., and Kilgore, S. 1982. High School Achievement: Public, Catholic, and Private Schools Compared. New York: Basic Books.

Cremin, L. 1964. The transformation of the school: progressivism in education, 1876-1957. New York: Bantam.

Dworkin, G. 1980. "The Changing Demography of Public School Teachers: Some Implications of Faculty Turnover in Urban Areas." Sociology of Education 53:2 (April): 66.

Educational Management and Evaluation Commission (California). 1982. "California School Governance: An Analysis and Call for Papers." Report to the California State School Board, December, unpublished.

Encarnation, D. J. 1983. "Public Finance and Regulation of Nonpublic Education: Retrospect and Prospect." In Public Dollars for Private Schools. T. James and H. M. Levin, eds. Philadelphia: Temple University Press: pp. 175-195.

Encarnation, D. J., and Mitchell, D. E. 1984, forthcoming. "Alternative State Policy Mechanisms for Influencing School Performance." Educational Researcher.

Encarnation, D. J., and Mitchell, D. E. 1983. "Critical tensions in the governance of California public education." Stanford, CA: Institute for Research on Educational Finance and Governance, Stanford University.

Encarnation, D. J., and Richards, C. 1981. "Labor Unions and Categorical Programs." Stanford, CA: IFG Policy Notes, Stanford University.

Erickson, D. A., and Madaus, G. F. 1972. Issues of Aid to Nonpublic Schools. Vol. 3: Public Assistance Programs for Nonpublic Schools. Washington, D.C.: President's Commission on School Finance.

Freeman, R. B. 1973. "Changes in the Labor Market for Black Americans, 1948-1972." In Brookings Papers on Economic Activity 1: 67-120.

Garms, W., Guthrie, J., and Pierce L. 1978. School finance: the economics and politics of education. Englewood Cliffs, N.J.: Prentice Hall.

Goodlad, J. I. 1983. A Place Called School, New York: McGraw-Hill.

Halvorsen, R., and Palmquist, R. 1980. "The Interpretation of Dummy Variables in Semilogarithmic Equations." American Economic Review 70:3 (June): 474-75.

Haney, J. E. 1978. "The Effects of the Brown Decision on Black Educators." Journal of Negro Education 78:1; pp. 88-95.

Hanushek, Eric A. "Conceptual and Empirical Issues in the Estimation of Educational Production Functions," Journal of Human Resources, 1979 14(3) 351-388.

James, T., and Levin, H. M. 1983. Public Dollars for Private Schools. Philadelphia, PA: Temple University Press.

Kirp, D. E. 1982. Just Schools. Berkeley, Ca.: University of California Press.

Kirst, M. W. 1982. "Teaching Policy and Federal Categorical Programs." Stanford, CA: Institute for Research on Educational Finance and Governance, Stanford University.

Kirst, M. 1980. "A tale of two networks." Taxing and Spending 3: 43-49.

Levin, H. M. 1977. "A Decade of Policy Developments in Improving Education and Training for Low-Income Populations." In A Decade of Federal Antipoverty Programs. Robert H., Haveman, ed. New York: Academic Press, pp. 123-188.

Lindsay, C. M. 1976. "A Theory of Government Enterprise." Journal of Political Economy 84:5 (October): 1061-77.

Mitchell, D. E. 1981. Shaping legislative decision: education policy and the social sciences. Lexington, MA: D. C. Heath and Co.

Mueller, D. C. 1979. Public Choice. Cambridge: Cambridge University Press.

Murnane, R. J. 1975. The Impact of School Resources on the Learning of Inner-City School Children. Cambridge, MA: Ballinger.

Murnane, R. J. 1983. "Comparisons of Public and Private Schools: Lessons from the Uproar," Harvard Graduate School of Education (no member) unpublished.

Naboa, A. 1980. "Hispanics and Desegregation: Summary of Aspira's Study on Hispanic Segregation Trends in U.S. School Districts." METAS, (Fall): 1-24.

National Catholic Education Association. 1980. How to Service Students with Federal Educational Program Benefits.

National Institute of Education. 1978. Violent Schools--Safe Schools, Volume I. Washington, D.C.: U.S. Government Printing Office.

Newman, D., et al. 1976. Protest, Politics, and Prosperity. New York: Pantheon.

Odden, A., and Dougherty, V. 1982. State Programs of School Improvement: A 50-State Survey. Denver, CO: Education Commission of the States.

O'Malley, C. J. 1981. "Governance of Private Schools." Private School Quarterly (Summer): 12-15.

Peterson, P. E. 1982.

President's Commission on School Finance. 1971. Public Aid to Non-Public Education. Washington, D.C.: The Commission.

Richards, C. E. 1984, forthcoming. "Bilingualism and Hispanic Employment: School Reform or Social Control," in Advances in Bilingual Education Research, E. E. Garcia and R. V. Padilla (eds.) University of Arizona Press.

Richards, C. E. 1983. Race and Educational Employment: The Political Economy of Teacher Labor Markets. Stanford, CA: Unpublished Ph.D. dissertation, Stanford University

Richards, C. E., and Encarnation, D. J. 1982. "Race and Educational Employment." Stanford, CA: Institute for Research on Educational Finance and Governance, Stanford University.

Scott, R. D. 1981. Organizations: Rational, Natural and Open Systems, Engelwood Cliffs, N. J.: Prentice Hall.

Sullivan, D. J. 1974. Public Aid to Nonpublic Schools. Lexington, MA: Lexington Books.

Vitullo-Martin, T. 1978. "Federal Policies and Private Schools." In Government in the Classroom. Mary Frase Williams, ed. New York: Proceedings of the Academy of Political Science, 33: 2, 124-35.

Wallace, P. A. 1977. "A Decade of Policy Developments in Equal Opportunities in Employment and Housing." In A Decade of Federal Antipoverty Programs. Haveman, R. H., ed. New York: Academic Press, 329-59.

APPENDIX A

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	PROPFBIL	PROPMIN	PROPSES
CATHOLIC	-0.11936	0.22690	-0.11403
	0.0585	0.0002	0.0707
	252	263	252
TCHLES	-0.00143	0.03132	0.04421
TAUGHT LESS THAN FIVE YRS	0.9820	0.6131	0.4847
	252	263	252
LAYOFFS	-0.00789	-0.12150	0.03006
	0.9008	0.0490	0.6348
	252	263	252
CENTCITY	0.01728	0.43613	0.22408
=1 IF SCH LOC IN CENTRAL CITY	0.7849	0.0001	0.0003
	252	263	252
ELEMSEC	-0.08725	-0.09969	-0.05457
GRADE LEVEL	0.1673	0.1067	0.3884
	252	263	252
PROPCOMP	0.40918	0.66691	0.60933
	0.0001	0.0001	0.0001
	252	252	252
PROPFBIL	1.00000	0.25409	0.42545
	0.0000	0.0001	0.0001
	252	252	252
PROPMIN	0.25409	1.00000	0.56925
	0.0001	0.0000	0.0001
	252	263	252
PROPSES	0.42545	0.56925	1.00000
	0.0001	0.0001	0.0000
	252	252	252

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	CENTCITY	ELEMSEC	PROPCOMP
PROPFBIL	0.01728	-0.08725	0.40918
	0.7849	0.1673	0.0001
	252	252	252
PROPMIN	0.43613	-0.09969	0.66691
	0.0001	0.1067	0.0001
	263	263	252
PROPSES	0.22408	-0.05457	0.60933
	0.0003	0.3884	0.0001
	252	252	252

	PROPFBIL	PROPMIN	PROPSES
TCH_MIN	0.29835	0.54151	0.46550
	0.0001	0.0001	0.0001
	252	263	252
ENR_TOT	0.12430	0.00226	0.03814
TOTAL SCH ENROLLMENT	0.0487	0.9709	0.5467
	252	263	252
ENR_PRE	-0.02388	-0.04953	-0.05072
TOTAL SCH ENROLLMENT,PRESCHOOL	0.7060	0.4238	0.4227
	252	263	252
ENR_MIN	0.29649	0.68338	0.46461
	0.0001	0.0001	0.0001
	252	263	252
FEDLIBM	0.21898	0.04170	0.26707
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.0005	0.5008	0.0001
	252	263	252
ENR_FCOM	0.36142	0.50947	0.46168
ENR PARTICIPATING IN FED COMP ED PROG	0.0001	0.0001	0.0001
	252	263	252
ENR_FBIL	0.89361	0.23030	0.38508
ENR PARTICIPATING IN FED BILNGL PROG	0.0001	0.0002	0.0001
	252	263	252
NSESLOW	0.47510	0.49729	0.78692
	0.0001	0.0001	0.0001
	252	263	252
PUBLIC	0.17585	-0.13636	0.24693
	0.0051	0.0270	0.0001
	252	263	252

CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	CENTCITY	ELEMSEC	PROPCOMP
ENR_PRE	-0.01058	-0.00971	-0.03718
TOTAL SCH ENROLLMENT,PRESCHOOL	0.8644	0.8755	0.5569
	263	263	252
ENR_MIN	0.38855	-0.41434	0.54460
	0.0001	0.0001	0.0001
	263	263	252
FEDLIBM	0.10021	-0.17347	0.25268
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.1049	0.0048	0.0001
	263	263	252
ENR_FCOM	0.31222	-0.18982	0.78274
ENR PARTICIPATING IN FED COMP ED PROG	0.0001	0.0020	0.0001
	263	263	252
ENR_FBIL	0.09525	-0.22569	0.35420
ENR PARTICIPATING IN FED BILNGL PROG	0.1234	0.0002	0.0001
	263	263	252
NSESLOW	0.31335	-0.30492	0.54426
	0.0001	0.0001	0.0001
	263	263	252
PUBLIC	-0.23174	-0.04393	-0.00926
	0.0001	0.4781	0.8837
	263	263	252
CATHOLIC	0.19812	0.00818	0.15189
	0.0012	0.8950	0.0158
	263	263	252
TCHLE5	0.19021	-0.19223	0.00940
TAUGHT LESS THAN FIVE YRS	0.0019	0.0017	0.8819
	263	263	252
LAYOFFS	-0.09033	-0.33278	-0.00330
	0.144	0.0001	0.9585
	26	263	252
CENTCITY	1.00000	-0.12346	0.35393
=1 IF SCH LOC IN CENTRAL CITY	0.0000	0.0455	0.0001
	263	263	252
ELEMSEC	-0.12346	1.00000	-0.03353
GRADE LEVEL	0.0455	0.0000	0.5963
	263	263	252
PROPCOMP	0.35393	-0.03353	1.00000
	0.0001	0.5963	0.0000
	252	252	252

CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	CATHOLIC	TCHLE5	LAYOFFS
PUBLIC	-0.67665	-0.26691	0.22761
	0.0001	0.0001	0.0002
	263	263	263
CATHOLIC	1.00000	-0.00430	-0.15402
	0.0000	0.9446	0.0124
	263	263	263
TCHLE5	-0.00430	1.00000	-0.01996
TAUGHT LESS THAN FIVE YRS	0.9446	0.0000	0.7473
	263	263	263
LAYOFFS	-0.15402	-0.01996	1.00000
	0.0124	0.7473	0.0000
	263	263	263
CENTCITY	0.19812	0.19021	-0.09033
=1 IF SCH LOC IN CENTRAL CITY	0.0012	0.0019	0.1440
	263	263	263
ELEMSEC	0.00818	-0.19223	-0.33278
GRADE LEVEL	0.8950	0.0017	0.0001
	263	263	263
PROPCOMP	0.15189	0.00940	-0.00330
	0.0158	0.8819	0.9585
	252	252	252
PROPFBIL	-0.11936	-0.00143	-0.00789
	0.0585	0.9820	0.9008
	252	252	252
PROPMIN	0.22690	0.03132	-0.12150
	0.0002	0.6131	0.0490
	263	263	263
PROPSES	-0.11403	0.04421	0.03006
	0.0707	0.4847	0.6348
	252	252	252

	CENTCITY	ELEMSEC	PROPCOMP
TCH_MIN	0.35054	-0.40267	0.48371
	0.0001	0.0001	0.0001
	263	263	252
ENR_TOT	0.08248	-0.62890	0.03187
TOTAL SCH ENROLLMENT	0.1823	0.0001	0.6146
	263	263	252

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	ENR_FBIL	NSESLOW	PUBLIC
PROPCOMP	0.35420	0.54426	-0.00926
	0.0001	0.0001	0.8837
	252	252	252
PROPFBIL	0.89361	0.47510	0.17585
	0.0001	0.0001	0.0051
	252	252	252
PROPMIN	0.23030	0.49729	-0.13636
	0.0002	0.0001	0.0270
	263	263	263
PROPSES	0.38508	0.78692	0.24693
	0.0001	0.0001	0.0001
	252	252	252

	CATHOLIC	TCHLES	LAYOFFS
TCH_MIN	-0.09823	0.24521	0.06679
	0.1120	0.0001	0.2805
	263	263	263
ENR_TOT	-0.15492	0.21441	0.32109
TOTAL SCH ENROLLMENT	0.0119	0.0005	0.0001
	263	263	263
ENR_PRE	-0.02692	0.08875	-0.03293
TOTAL SCH ENROLLMENT,PRESCHOOL	0.6638	0.1512	0.5950
	263	263	263
ENR_MIN	-0.00087	0.17511	0.05796
	0.9888	0.0044	0.3491
	263	263	263
FEDLIBM	-0.02619	0.01121	0.22865
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.6725	0.8565	0.0002
	263	263	263
ENR_FCOM	-0.00704	0.14070	0.03465
ENR PARTICIPATING IN FED COMP ED PROG	0.9095	0.0225	0.5758
	263	263	263
ENR_FBIL	-0.11988	0.06885	0.06351
ENR PARTICIPATING IN FED BILNGL PROG	0.0521	0.2659	0.3048
	263	263	263
NSESLOW	-0.16561	0.20354	0.15480
	0.0071	0.0009	0.0120
	263	263	263

CORRELATION COEFFICIENTS / PROB > |R| UNDER HO:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	ENR_FBIL	NSESLOW	PUBLIC
ENR_TOT	0.29037	0.42978	0.32317
TOTAL SCH ENROLLMENT	0.0001	0.0001	0.0001
	263	263	263
ENR_PRE	-0.02326	-0.04530	-0.13096
TOTAL SCH ENROLLMENT,PRESCHOOL	0.7073	0.4644	0.0338
	263	263	263
ENR_MIN	0.41248	0.73570	0.14665
	0.0001	0.0001	0.0173
	263	263	263
FEDLIBM	0.24332	0.26233	0.12239
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.0001	0.0001	0.0474
	263	263	263
ENR_FCOM	0.39966	0.61722	0.09894
ENR PARTICIPATING IN FED COMP ED PROG	0.0001	0.0001	0.1094
	263	263	263
ENR_FBIL	1.00000	0.61239	0.17737
ENR PARTICIPATING IN FED BILNGL PROG	0.0000	0.0001	0.0039
	263	263	263
NSESLOW	0.61239	1.00000	0.28723
	0.0001	0.0000	0.0001
	263	263	263
PUBLIC	0.17737	0.28723	1.00000
	0.0039	0.0001	0.0000
	263	263	263
CATHOLIC	-0.11988	-0.16561	-0.67665
	0.0521	0.0071	0.0001
	263	263	263
TCHLE5	0.06885	0.20354	-0.26691
TAUGHT LESS THAN FIVE YRS	0.2659	0.0009	0.0001
	263	263	263
LAYOFFS	0.06351	0.15480	0.22761
	0.3048	0.0120	0.0002
	263	263	263
CENTCITY	0.09525	0.31335	-0.23174
=1 IF SCH LOC IN CENTRAL CITY	0.1234	0.0001	0.0001
	263	263	263
ELEMSEC	-0.22569	-0.30492	-0.04393
GRADE LEVEL	0.0002	0.0001	0.4781
	263	263	263

CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	ENR_MIN	FEDLIBM	ENR_FCOM
NSESLOW	0.73570	0.26233	0.61722
	0.0001	0.0001	0.0001
	263	263	263
PUBLIC	0.14665	0.12239	0.09894
	0.0173	0.0474	0.1094
	263	263	263
CATHOLIC	-0.00087	-0.02619	-0.00704
	0.9888	0.6725	0.9095
	263	263	263
TCHLE5	0.17511	0.01121	0.14070
TAUGHT LESS THAN FIVE YRS	0.0044	0.8565	0.0225
	263	263	263
LAYOFFS	0.05796	0.22865	0.03465
	0.3491	0.0002	0.5758
	263	263	263
CENTCITY	0.38855	0.10021	0.31222
=1 IF SCH LOC IN CENTRAL CITY	0.0001	0.1049	0.0001
	263	263	263
ELEMSEC	-0.41434	-0.17347	-0.18982
GRADE LEVEL	0.0001	0.0048	0.0020
	263	263	263
PROPCOMP	0.54460	0.25268	0.78274
	0.0001	0.0001	0.0001
	252	252	252
PROPFBIL	0.29649	0.21898	0.36142
	0.0001	0.0005	0.0001
	252	252	252
PROPMIN	0.68338	0.04170	0.50947
	0.0001	0.5008	0.0001
	263	263	263
PROPSES	0.46461	0.26707	0.46168
	0.0001	0.0001	0.0001
	252	252	252

	ENR_FBIL	NSESLOW	PUBLIC
TCH_MIN	0.41685	0.70781	0.16853
	0.0001	0.0001	0.0062
	263	263	263

CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	TCH_MIN	ENR_TOT	ENR_PRE
ELEMSEC	-0.40267	-0.62890	-0.00971
GRADE LEVEL	0.0001	0.0001	0.8755
	263	263	263
PROPCOMP	0.48371	0.03187	-0.03718
	0.0001	0.6146	0.5569
	252	252	252
PROPFBIL	0.29835	0.12430	-0.02388
	0.0001	0.0487	0.7060
	252	252	252
PROPMIN	0.54151	0.00226	-0.04953
	0.0001	0.9709	0.4238
	263	263	263
PROPSES	0.46550	0.03814	-0.05072
	0.0001	0.5467	0.4227
	252	252	252

	ENR_MIN	FEDLIBM	ENR_FCOM
TCH_MIN	0.82149	0.11175	0.61909
	0.0001	0.0704	0.0001
	263	263	263
ENR_TOT	0.55684	0.18185	0.27031
TOTAL SCH ENROLLMENT	0.0001	0.0031	0.0001
	263	263	263
ENR_PRE	-0.04583	-0.06419	-0.02701
TOTAL SCH ENROLLMENT,PRESCHOOL	0.4593	0.2997	0.6628
	263	263	263
ENR_MIN	1.00000	0.13174	0.73031
	0.0000	0.0327	0.0001
	263	263	263
FEDLIBM	0.13174	1.00000	0.15593
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.0327	0.0000	0.0113
	263	263	263
ENR_FCOM	0.73031	0.15593	1.00000
ENR PARTICIPATING IN FED COMP ED PROG	0.0001	0.0113	0.0000
	263	263	263
ENR_FBIL	0.41248	0.24332	0.39966
ENR PARTICIPATING IN FED BILNGL PROG	0.0001	0.0001	0.0001
	263	263	263

CORRELATION COEFFICIENTS / PROB > |R| UNDER H0:RHO=0
/ NUMBER OF OBSERVATIONS / WEIGHT VAR=WGHTRET

	TCH_MIN	ENR_TOT	ENR_PRE
TCH_MIN	1.00000	0.56091	-0.04108
	0.0000	0.0001	0.5071
	263	263	263
ENR_TOT	0.56091	1.00000	-0.05094
TOTAL SCH ENROLLMENT	0.0001	0.0000	0.4107
	263	263	263
ENR_PRE	-0.04108	-0.05094	1.00000
TOTAL SCH ENROLLMENT,PRESCHOOL	0.5071	0.4107	0.0000
	263	263	263
ENR_MIN	0.82149	0.55684	-0.04583
	0.0001	0.0001	0.4593
	263	263	263
FEDLIBM	0.11175	0.18185	-0.06419
SCHL RECEIVES FUNDS FOR LIB MATERIALS	0.0704	0.0031	0.2997
	263	263	263
ENR_FCOM	0.61909	0.27031	-0.02701
ENR PARTICIPATING IN FED COMP ED PROG	0.0001	0.0001	0.6628
	263	263	263
ENR_FBIL	0.41685	0.29037	-0.02326
ENR PARTICIPATING IN FED BILNGL PROG	0.0001	0.0001	0.7073
	263	263	263
NSESLOW	0.70781	0.42978	-0.04530
	0.0001	0.0001	0.4644
	263	263	263
PUBLIC	0.16853	0.32317	-0.13096
	0.0062	0.0001	0.0338
	263	263	263
CATHOLIC	-0.09823	-0.15492	-0.02692
	0.1120	0.0119	0.6638
	263	263	263
TCHLE5	0.24521	0.21441	0.08875
TAUGHT LESS THAN FIVE YRS	0.0001	0.0005	0.1512
	263	263	263
LAYOFFS	0.06679	0.32109	-0.03293
	0.2805	0.0001	0.5950
	263	263	263
CENTCITY	0.35054	0.08248	-0.01058
=1 IF SCH LOC IN CENTRAL CITY	0.0001	0.1823	0.8644
	263	263	263

APPENDIX B

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

WARNING: 11 OBSERVATIONS DELETED DUE TO MISSING VALUES.

STEP 1 VARIABLE ENR_TOT ENTERED R SQUARE = 0.31304616
C(P) = 267.43632380

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	1	751.22591941	751.22591941	113.93	0.0001
ERROR	250	1648.50298225	6.59401193		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-0.30187341				
ENR_TOT	0.00408926	0.00038312	751.22591941	113.93	0.0001

THE ABOVE MODEL IS THE BEST 1 VARIABLE MODEL FOUND.

STEP 2 VARIABLE PROPMIN ENTERED R SQUARE = 0.60948190
C(P) = 47.01418010

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	2	1462.59132049	731.29566024	194.31	0.0001
ERROR	249	937.13758117	3.76360474		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.93104851				
ENR_TOT	0.00406349	0.00028945	741.75745947	197.09	0.0001
PROPMIN	6.91178448	0.50274276	711.36540108	189.01	0.0001

THE ABOVE MODEL IS THE BEST 2 VARIABLE MODEL FOUND.

STEP 3 VARIABLE PROPSES ENTERED R SQUARE = 0.63623432
C(P) = 28.94125640

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	3	1526.78988985	508.92996328	144.59	0.0001
ERROR	248	872.93901182	3.51991537		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-2.01356046				
ENR_TOT	0.00401335	0.00028017	722.29237551	205.20	0.0001
PROPMIN	5.47348945	0.59144604	301.46058558	85.64	0.0001
PROPSES	3.24838786	0.76062626	64.19856936	18.24	0.0001

THE ABOVE MODEL IS THE BEST 3 VARIABLE MODEL FOUND.

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

STEP 4 VARIABLE TCHLE5 ENTERED R SQUARE = 0.64671320
C(P) = 23.07873048

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	4	1551.93634698	387.98408674	113.04	0.0001
ERROR	247	847.79255468	3.43235852		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-2.16313235				
ENR_TOT	0.00384118	0.00028388	628.43340702	183.09	0.0001
PROPMIN	5.44364322	0.58414778	298.07564776	86.84	0.0001
PROPSES	3.20903729	0.75124719	62.62913984	18.25	0.0001
TCHLE5	0.05094949	0.01882339	25.14645713	7.33	0.0073

THE ABOVE MODEL IS THE BEST 4 VARIABLE MODEL FOUND.

STEP 5 VARIABLE CATHOLIC ENTERED R SQUARE = 0.65538556
C(P) = 18.57166667

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	5	1572.74767438	314.54953488	93.57	0.0001
ERROR	246	826.98122728	3.36171231		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-2.04818350				
ENR_TOT	0.00373471	0.00028418	580.60880741	172.71	0.0001
PROPMIN	5.96613980	0.61506439	316.30512109	94.09	0.0001
PROPSES	2.64576431	0.77717872	38.96018871	11.59	0.0008
CATHOLIC	-0.95175607	0.38252167	20.81132740	6.19	0.0135
TCHLE5	0.05260441	0.01864053	26.77244789	7.96	0.0052

STEP 5 PROPSES REPLACED BY PROPCOMP R SQUARE = 0.65990290
C(P) = 15.18221306

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	5	1583.58805200	316.71761040	95.46	0.0001
ERROR	246	816.14084966	3.31764573		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.83902495				
ENR_TOT	0.00367618	0.00028259	561.45184058	169.23	0.0001
PROPMIN	5.61294746	0.64149904	253.99194533	76.56	0.0001
PROPCOMP	2.68011925	0.69175448	49.80056633	15.01	0.0001
CATHOLIC	-1.35889886	0.36359789	46.34059046	13.97	0.0002

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

TCHLE5	0.05659357	0.01851859	30.98479701	9.34	0.0025

THE ABOVE MODEL IS THE BEST 5 VARIABLE MODEL FOUND.

STEP 6 VARIABLE PROPSES ENTERED R SQUARE = 0.66574177
C(P) = 12.80117684

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	6	1597.59977555	266.26662926	81.33	0.0001
ERROR	245	802.12912611	3.27399643		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.93112872				
ENR_TOT	0.00369347	0.00028085	566.24421964	172.95	0.0001
PROPMIN	5.15225370	0.67505460	190.71940150	58.25	0.0001
PROPCOMP	2.06364560	0.74901870	24.85210117	7.59	0.0063
PROPSES	1.72943001	0.83598082	14.01172355	4.28	0.0396
CATHOLIC	-1.10454956	0.38155005	27.43756566	8.38	0.0041
TCHLE5	0.05489920	0.01841458	29.09955882	8.89	0.0032

THE ABOVE MODEL IS THE BEST 6 VARIABLE MODEL FOUND.

STEP 7 VARIABLE LAYOFFS ENTERED R SQUARE = 0.67199753
C(P) = 10.10734411

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	7	1612.61190586	230.37312941	71.41	0.0001
ERROR	244	787.11699580	3.22588933		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.86561028				
ENR_TOT	0.00389709	0.00029432	565.56488310	175.32	0.0001
PROPMIN	4.90542164	0.67977566	167.98516436	52.07	0.0001
PROPCOMP	2.17809686	0.74538596	27.54491418	8.54	0.0038
PROPSES	1.84711068	0.83160743	15.91470444	4.93	0.0273
CATHOLIC	-1.15462052	0.37944706	29.86934037	9.26	0.0026
TCHLE5	0.05187168	0.01833259	25.82631130	8.01	0.0051
LAYOFFS	-0.11097584	0.05144368	15.01213031	4.65	0.0320

THE ABOVE MODEL IS THE BEST 7 VARIABLE MODEL FOUND.

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

STEP 8 VARIABLE FEDLIBM ENTERED R SQUARE = 0.67640190
C(P) = 8.80265066

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	8	1623.18119783	202.89764973	63.49	0.0001
ERROR	243	776.54770383	3.19566956		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.71341641				
ENR_TOT	0.00396959	0.00029564	576.13397207	180.29	0.0001
PROPMIN	4.64333039	0.69176250	143.98160509	45.06	0.0001
FEDLIBM	-0.44905334	0.24691980	10.56929197	3.31	0.0702
PROPCOMP	2.45178421	0.75699617	33.52269996	10.49	0.0014
PROPSES	2.15932206	0.84531924	20.85235910	6.53	0.0112
CATHOLIC	-1.11675594	0.37823904	27.85772853	8.72	0.0035
TCHLES	0.05100922	0.01825268	24.95777637	7.81	0.0056
LAYOFFS	-0.09727585	0.05175335	11.29002755	3.53	0.0614

STEP 8 LAYOFFS REPLACED BY CENTCITY R SQUARE = 0.67729858
C(P) = 8.12985353

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	8	1625.33298269	203.16662284	63.75	0.0001
ERROR	243	774.39591897	3.18681448		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.71661078				
ENR_TOT	0.00377895	0.00028242	570.57563507	179.04	0.0001
PROPMIN	4.39263154	0.71502106	120.27314448	37.74	0.0001
FEDLIBM	-0.55967556	0.24485089	16.65045520	5.22	0.0231
PROPCOMP	2.27041766	0.75776190	28.60900602	8.98	0.0030
PROPSES	2.21180390	0.84525120	21.82118987	6.85	0.0094
CATHOLIC	-1.16036910	0.37949773	29.79413130	9.35	0.0025
TCHLES	0.04638909	0.01850484	20.02709997	6.28	0.0128
CENTCITY	0.61973883	0.30175758	13.44181242	4.22	0.0411

THE ABOVE MODEL IS THE BEST 8 VARIABLE MODEL FOUND.

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

STEP 9 VARIABLE LAYOFFS ENTERED R SQUARE = 0.68135275
C(P) = 7.08792471

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	9	1635.06188324	181.67354258	57.50	0.0001
ERROR	242	764.66701842	3.15978107		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.68734973				
ENR_TOT	0.00393289	0.00029459	563.19644195	178.24	0.0001
PROPMIN	4.25668585	0.71618474	111.62206846	35.33	0.0001
FEDLIBM	-0.49433505	0.24663741	12.69351490	4.02	0.0462
PROPCOMP	2.33064808	0.75532139	30.08477915	9.52	0.0023
PROPSES	2.25590108	0.84203358	22.67975052	7.18	0.0079
CATHOLIC	-1.20031586	0.37856981	31.76553118	10.05	0.0017
TCHLES	0.04450198	0.01845754	18.36826207	5.81	0.0167
LAYOFFS	-0.09050781	0.05158016	9.72890055	3.08	0.0806
CENTCITY	0.58397890	0.30116528	11.88068541	3.76	0.0537

THE ABOVE MODEL IS THE BEST 9 VARIABLE MODEL FOUND.

STEP 10 VARIABLE ELEMSEC ENTERED R SQUARE = 0.68227944
C(P) = 8.39261029

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	10	1637.28568441	163.72856844	51.75	0.0001
ERROR	241	762.44321725	3.16366480		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.29518241				
ENR_TOT	0.00376066	0.00035929	346.59913060	109.56	0.0001
PROPMIN	4.17076289	0.72391575	105.01356830	33.19	0.0001
FEDLIBM	-0.51030884	0.24752330	13.44697156	4.25	0.0403
PROPCOMP	2.40563783	0.76105964	31.60920464	9.99	0.0018
PROPSES	2.26048939	0.84256867	22.77114100	7.20	0.0078
CATHOLIC	-1.22693811	0.38013095	32.95864214	10.42	0.0014
TCHLES	0.04310163	0.01854425	17.09067366	5.40	0.0209
LAYOFFS	-0.09868515	0.05252535	11.16750259	3.53	0.0615
CENTCITY	0.57166683	0.30170791	11.35803134	3.59	0.0593
ELEMSEC	-0.32201914	0.38408641	2.22380117	0.70	0.4026

THE ABOVE MODEL IS THE BEST 10 VARIABLE MODEL FOUND.

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

STEP 11 VARIABLE PROPFBIL ENTERED R SQUARE = 0.68273210
C(P) = 10.05296746

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	11	1638.37195286	148.94290481	46.95	0.0001
ERROR	240	761.35694880	3.17232062		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.30304762				
ENR_TOT	0.00374305	0.00036104	340.97521944	107.48	0.0001
PROPMIN	4.18365216	0.72523996	105.56616919	33.28	0.0001
FEDLIBM	-0.52301402	0.24881082	14.01732696	4.42	0.0366
PROPCOMP	2.29265277	0.78617875	26.97807983	8.50	0.0039
PROPFBIL	1.18484002	2.02478852	1.08626845	0.34	0.5590
PROPSES	2.16042485	0.86087506	19.97906466	6.30	0.0127
CATHOLIC	-1.20306851	0.38282999	31.32895284	9.88	0.0019
TCHLE5	0.04333474	0.01857388	17.26809623	5.44	0.0205
LAYOFFS	-0.09502882	0.05296700	10.21120551	3.22	0.0741
CENTCITY	0.59732028	0.30528449	12.14456945	3.83	0.0516
ELEMSEC	-0.31271333	0.38494012	2.09355081	0.66	0.4174

THE ABOVE MODEL IS THE BEST 11 VARIABLE MODEL FOUND.

STEP 12 VARIABLE PUBLIC ENTERED R SQUARE = 0.68277586
C(P) = 12.02013321

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	12	1638.47696554	136.53974713	42.87	0.0001
ERROR	239	761.25193612	3.18515454		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.25200767				
ENR_TOT	0.00377596	0.00040464	277.36384820	87.08	0.0001
PROPMIN	4.16978248	0.73070899	103.72140976	32.56	0.0001
FEDLIBM	-0.52238940	0.24933734	13.98120422	4.39	0.0372
PROPCOMP	2.29534622	0.78790708	27.03192083	8.49	0.0039
PROPFBIL	1.17367647	2.02981146	1.06491735	0.33	0.5637
PROPSES	2.21063781	0.90585829	18.96903209	5.96	0.0154
PUBLIC	-0.08547146	0.47072309	0.10501268	0.03	0.8561
CATHOLIC	-1.26415053	0.51021331	19.55350046	6.14	0.0139
TCHLE5	0.04161121	0.02089223	12.63519037	3.97	0.0475
LAYOFFS	-0.09456021	0.05313674	10.08689536	3.17	0.0764
CENTCITY	0.58835672	0.30985905	11.48374601	3.61	0.0588
ELEMSEC	-0.29869842	0.39336489	1.83656020	0.58	0.4484

THE ABOVE MODEL IS THE BEST 12 VARIABLE MODEL FOUND.

MAXIMUM R-SQUARE IMPROVEMENT FOR DEPENDENT VARIABLE TCH_MIN

STEP 13 VARIABLE ENR_PRE ENTERED R SQUARE = 0.68280269
C(P) = 14.00000000

	DF	WEIGHTED SS	MEAN SQUARE	F	PROB>F
REGRESSION	13	1638.54135693	126.04164284	39.41	0.0001
ERROR	238	761.18754473	3.19826699		
TOTAL	251	2399.72890166			

	B VALUE	STD ERROR	TYPE II SS	F	PROB>F
INTERCEPT	-1.23757824				
ENR_TOT	0.00377558	0.00040548	277.29524520	86.70	0.0001
ENR_PRE	-0.00192338	0.01355531	0.06439139	0.02	0.8873
PROPMIN	4.16384164	0.73340759	103.08899844	32.23	0.0001
FEDLIBM	-0.52409518	0.25013909	14.04015536	4.39	0.0372
PROPCOMP	2.29929984	0.79001874	27.09138111	8.47	0.0040
PROPFBIL	1.17292576	2.03399215	1.06354831	0.33	0.5647
PROPSES	2.21358043	0.90795784	19.00964315	5.94	0.0155
PUBLIC	-0.09664109	0.47821458	0.13061491	0.04	0.8400
CATHOLIC	-1.27453019	0.51646928	19.47717602	6.09	0.0143
TCHLES	0.04164983	0.02093695	12.65651530	3.96	0.0478
LAYOFFS	-0.09466855	0.05325148	10.10794428	3.16	0.0767
CENTCITY	0.58717045	0.31060873	11.42919842	3.57	0.0599
ELEMSEC	-0.30059852	0.39440115	1.85785594	0.58	0.4467

THE ABOVE MODEL IS THE BEST 13 VARIABLE MODEL FOUND.